**NERRS Science Collaborative Progress Report for the Period 03/01/12 through 08/31/12**

**Project Title: *Freshwater Inflow: Determining flow regimes in the face of land use change, climate change, and other unknowns***

**Principal Investigator(s): Ed Buskey**

**Project start date: 11/15/2011**

**Report compiled by: Sally Morehead**

**Contributing team members and their role in the project:**

Sally Morehead: Project coordinator & Fiscal agent
Dr. Ed Buskey: Applied Science Investigator and Principal Investigator
Dr. Tarla Rai Peterson: Collaboration Lead
Dr. Ken Dunton and Dr. Norman Johns: Intended User Representative
Dr. Kiersten Madden and Dr. George Ward: Applied Science Investigator

A. Progress overview:

The overall goal of the project is to improve the quality of environmental flow recommendations for the Guadalupe/San Antonio Bay and Basin by collaborating with local stakeholders and scientists to overcome some of these research barriers and provide additional information and data for the Senate Bill 3 adaptive management plan. During this performance period the project team hosted several project team conference calls, several intended user meetings, media outreach, began equipment procurement, and data collection.

B. Working with Intended Users:

Presentations - Intended users were integrated in the project by participation in several stakeholder meetings.

- On 5/30/12 the project team had the stakeholder meeting. During this initial meeting, the project team and workshop participants began their development of a common knowledge base regarding the Mission-Aransas Estuary. The workshop included presentations by research team members, question/answer sessions, and small group activities. The summary of the meeting was sent out to the stakeholder listserve. Summaries are also available on BaseCamp.
- On 7/27/12 Kiersten Madden, Kristin Hicks and Sally Morehead gave a presentation a University of Texas undergraduate class. The presentation gave a general overview of the NERRS science collaborative project and was followed by a question and answer session. The presentation from this meeting is available on BaseCamp.
- On 8/21/12, Kiersten Madden gave a presentation about the project to the San Antonio Bay Partnership.
- On 8/23/12, Kiersten Madden gave an update about the project to the GSA BBASC.
- On 10/20/12, Kiersten Madden gave a presentation about the project to the San Antonio master naturalist

Unanticipated challenges or opportunities

- Test deployment of the seahorse tilt current meters revealed that magnetic activation of the data loggers worked indoors but not outdoors. Further testing revealed that the data loggers can be consistently triggered in the field if low light conditions are provided during exposure to the magnet.
- Political challenges are also scientific opportunities. The Texas Commission of Environmental Quality (TCEQ) ruled on water flow criteria in the Guadalupe and San Antonio Rivers. TCEQ did not accept the full recommendations of the stakeholder groups because of lack of relevant science. This provides a greater importance to the research that the science collaborative project.
- The Aransas Project lawsuit against TCEQ has still not completed a ruling. The project team foresees a challenge not bearing too much emphasis on the politics of the region.

Collaboration - Several activities have been completed to increase collaboration with stakeholders and include the following:

- Development and implementation of a listserve to share information about the Science Collaboration project and related news items
- Collection of a survey to assess baseline knowledge of freshwater inflows and valuation of this topic. This was send to several listserves including but not limited to Coastal Bend Bays & Estuaries Program, University of Texas Marine Science Institute, and Science Collaborative project listserve.
- Blog of topic by TIDES fellow
- Development of website with information about the project including workshop presentations, workshop announcements, and meeting minutes.
- Informal presentations to many stakeholder groups informing them of the project, upcoming meetings and survey collection. (e.g. Deep Sea Round-up Fishing Tournament and the Copano Bay TMDL project participants)
- A press release was sent to the Island Moon, Port A South Jetty, and Seguin Gazette

C. Progress on project objectives for this reporting period:
The first large stakeholder meeting was held on May 30, 2012. During this meeting several group activities were conducted that helped the project team 1) prioritize a key species for research, 2) define priority information for decision support tools, 3) propose appropriate locations for obtaining water circulation data for modeling, and 4) delineate the parameters for a collaboratively designed model of the estuary that can assist in better management of the system. The research team has also begun purchasing and testing current meter equipment to prepare for deployment.

D. Benefit to NERRS and NOAA:

Freshwater inflow is an issue with several Reserves. Although the laws are different across the states, Texas can present an avenue for the process of determining freshwater inflow criteria. In addition, the research being conducted for this project will be important to other Reserves that value commercially important species, such as blue crabs. The project is implementing several experiments to analyze the effects of current velocity on the numbers of blue crab megalopae

retained on the blue crab settlement collectors.  The results of these experiments would be relevant to the blue crab citizen science project we are doing at the Reserve and to anyone working with these types of collectors.